

# Femoral Antetorsion and Acetabular Anteversion

**Impingement-free range of motion** depends on acetabular version (solid line), femoral antetorsion (dashed line) and the femoral head-neck sphericity (not shown). Physiological acetabular anteversion combined with femoral antetorsion allows appropriate impingement-free external- and internal rotation (green arrow). Acetabular retroversion predisposes to **anterior impingement**. While a concomitant femoral retrotorsion aggravates an anterior impingement (bottom right; red arrow), a high femoral antetorsion compensates for the decreased internal rotation (bottom left; blue arrow). Analogously, the risk for a **posterior impingement** in hips with excessive acetabular anteversion is aggravated by a high femoral antetorsion (top left; red arrow) or reduced by femoral retrotorsion (top right; blue arrow).

	Increased Femoral Antetorsion	Regular Femoral Antetorsion	Decreased Femoral Antetorsion
Excessive Acetabular Anteversion			
Regular Acetabular Anteversion			
Acetabular Retroversion			